

WHAT IS CLAIMED IS:

1. An optical interface for an appliance using indicator lights comprising:
a vacuum fluorescent display; and
a first indicator light mounted behind the vacuum fluorescent display
(VFD) so that the first indicator light may be operated as an optical
communication device for optical communication through the vacuum fluorescent
display.

2. The optical interface of claim 1 wherein the VFD includes a dark layer
covering a glass substrate and a first aperture is formed in the dark layer so that
the indicator light may be aligned with the first aperture in the vacuum fluorescent
display for enabling optical communication through the VFD.

3. The optical interface of claim 1 further comprising:
a second indicator light mounted behind the VFD so that the
second indicator light may be operated as an optical communication
device for optical communication through the VFD.

4. The optical interface of claim 3 wherein the first indicator light is
operated as an optical transmitter and the second indicator light is operated as
an optical receiver.

5. The optical interface of claim 4, the VFD further comprising:

a dark layer covering a glass substrate; and

a first aperture and a second aperture being in the dark layer so the first and second indicator lights are enabled for optical communication through the dark layer and the dark layer absorbs light not substantially aligned with either the first or the second aperture.

6. The optical interface of claim 2 wherein the first aperture is located approximately equidistant from four phosphor pixels.

7. The optical interface of claim 5 wherein the first aperture is located approximately equidistant from a first group of four phosphor pixels and the second aperture is located approximately equidistant from a second group of four phosphor pixels.

8. A method for enabling optical communication with an appliance having a vacuum fluorescent display comprising:

mounting a first indicator light behind a vacuum fluorescent display (VFD);

and

operating the first indicator light as an optical communication device for optical communication through the VFD.

9. The method of claim 8 wherein the first aperture formation includes:

forming a first aperture in a dark layer covering a glass substrate of the vacuum fluorescent display.

10. The method of claim 8 further comprising:

mounting a second indicator light behind the vacuum fluorescent display; and

operating the second indicator light as an optical communication device for optical communication through the VFD.

11. The method of claim 10 further comprising:

operating the first indicator light as an optical transmitter; and

operating the second indicator light as an optical receiver.

12. The method of claim 11 further comprising:

forming a first aperture and a second aperture in a dark layer covering a glass substrate of the VFD so the first and second indicator lights are enabled for optical communication through the dark layer and the dark layer absorbs light not substantially aligned with either the first or the second aperture.

13. The method of claim 9 wherein the first aperture formation includes:

locating the first aperture approximately equidistantly from four phosphor pixels.

14. The method of claim 12 wherein the first aperture formation includes:

locating the first aperture approximately equidistantly from a first group of four phosphor pixels; and

the second aperture formation includes:

locating the second aperture approximately equidistantly from a second group of four phosphor pixels.

15. An appliance enabled for optical communication with a diagnostic tool comprising:

- an appliance having a control panel;
- a vacuum fluorescent display mounted in the control panel; and
- an indicator light mounted behind the vacuum fluorescent display for optical communication between the indicator light and a diagnostic tool through the vacuum fluorescent display (VFD).

16. The appliance of claim 15 wherein the VFD includes a dark layer covering a glass substrate and a first aperture is formed in the dark layer.

17. The appliance of claim 15 further comprising:

- a second indicator light mounted behind the vacuum fluorescent display for optical communication through the VFD.

18. The appliance of claim 17 wherein the first indicator light is operated as an optical transmitter and the second indicator light is operated as an optical receiver.

19. The appliance of claim 18, the vacuum fluorescent display further comprising:

- a dark layer covering a glass substrate; and

a first aperture and a second aperture are in the dark layer so the first and second indicator lights are enabled for optical communication through the dark layer and the dark layer absorbs light not substantially aligned with either the first or the second aperture.

20. The appliance of claim 16 wherein the first aperture is located approximately equidistant from four phosphor pixels in the VFD.